

USSR -

BANSHCHIKOV, V., Meditsinskaya Gazeta, 30 Jun 72, p 3

We must also eliminate the serious gap in the sexual education of young people. Scientifically substantiated psychosexology, which examines the problems of the relationship between sex and the psyche realistically, should be set against the Freudian and neo-Freudian concepts prevalent abroad.

There are also vast problems in psychohygienic and psychoprophylactic work among mature and elderly individuals. Rise in the general standard in the approach to the human psyche is a decisive condition of the success of psychohygienic measures.

The experience of our Polish colleagues attracts attention. Recently, they have regularly broadcast over television mass autogenic training sessions. These sessions are also important for the prevention of vascular diseases, primarily heart vessel and brain injuries.

Thus, problems of psychohygiene, psychoprophylaxis, and psychohygienic propaganda are urgent as never before.

5/5

Publications

USSR

BANSHCHIKOV, V. M., Honored Scientist Professor (Editor)

Moscow, Elektroson v prakticheskoy meditsine (Electrosleep in Medical Practice), RSFSR Ministry of Public Health, 1972, 250 pp

Translation: Contents

Section I. Modern State of the Art in Electrosleep

V. M. Bانشchikov. Modern State of the Art and Prospects for the Development of the Problem of Electrosleep 5

Ye. I. Kulikova (Ledginskaya). Application of Electrosleep Therapy in Psychoneurology 20

S. R. Roytenburd. Application of Electrosleep in Surgery and Anesthesiology 28

N. A. Kostyukhina. Application of Electrosleep in Internal Medicine Clinics 36

L. S. Persianinov, E. M. Kastrubin. Application of Electrosleep in Pediatric-Gynecologic Practice 40

T. V. Nikitina, N. I. Khartulari. Prospects for the Application of Electrosleep in Stomatology 46

Section II. Theoretical Principles of Electrosleep

V. M. Bانشchikov, Ye. I. Kulikova (Ledginskaya). S. R. Roytenburd. Physiological Aspects of Electrosleep 55

1/7

USSR

BANSHCHIKOV, V. M., Electrosleep in Medical Practice, RSFSR, Ministry of Public Health, 1972, 256pp

- V. M. Banshchikov, Ye. I. Kulikova (Lebedinskaya), K. V. Sudakov, D. A. Arsent'yev. Analysis of the Cortical-Subcortical Inter-relations under Electrosleep Conditions 73
- V. M. Banshchikov, V. A. Pirogov, Ye. I. Kulikova (Lebedinskaya). Behavior and EEG of the Reaction After Course Stimulation of Somnogenic Structures by an Electric Current 79
- E. M. Kastrubin, Ye. A. sokolova, V. F. Pronin, T. B. Kupreyshvili, I. S. Sidorova. State of the Contractile Capacity and Hemodynamics of the Womb during Electroanalgesia in Birth 82
- N. A. Kostyukhina, K. V. Sudakov, G. A. Putan, S. I. Dobromyslova. Study of the Emotional Reaction of Patients with Hypertonic Disease under the Effect of Electrosleep 86
- V. A. Pirogov, I. A. Chernishevskaya, K. V. Sudakov. Electroencephalographic Analysis of Experimental Sleep Caused by Low-Frequency Stimulation of the Deep Structures of the Brain of Rabbits 91
- I. S. Robiner, S. R. Roytenburd. Electroencephalographic Control of Electrosleep Therapy 99
- 2/7

USSR

BANSCHCHIKOV, V. M., Electrosleep in Medical Practice, RSFSR Ministry of Public Health, 1972, 256 pp

- S. R. Roytenburd, Yu. N. Fedorovskiy. Hemodynamic Shifts as Criteria of the Effectiveness and Optimal Duration of Electrosleep for Patients with Obliterating Diseases of the Arteries of the Extremities 104
- L. A. Safronova, A. A. Aristov. State of the Cardiovascular System of the Mother and Fetus During Electrosleep Treatment of Late Toxicosis in Pregnant Women 111
- L. A. Studnitsayna. Variation of the Function of the Sympatho-Adrenal System of Patients with Hypotonic Disease Under the Effect of Electrosleep 116
- Section III. Practical Application of Electrosleep
- Ye. R. Afanas'yeva, Ye. A. Obratsova. Our Experience in the Application of Electrosleep Under the Conditions of the Psychoneurological Clinic 123
- M. Ya. Bandrimer, M. I. Khalturina. Experiment in Ambulatory Treatment with Electrosleep in the Children's Polyclinic 127
- L. F. Belash, A. R. Fedorenko. Electrosleep in the Treatment of Patients with Beginning Glaucoma 131
- V. N. Gerasimenko. Electrosleep in the Complex Treatment of Patients with Rheumatoid Polyarthritits 135

3/7

USSR

BANSHCHIKOV, V. M., Electrosleep in Medical Practice, RSFSR Ministry of Public Health, 1972, 256 pp

- N. Yu. Gilinskaya, Z. N. Tsogoyeva, I. N. Negodova. Therapeutic Application of Electrosleep in the Presence of Logoneuroses 140
- O. B. Davydova. Experience in the Treatment of Bronchial Asthma by Low-Frequency Pulsed Currents by the Electrosleep Procedure 144
- N. S. Yegorova, I. V. Pogrebizhskaya, O. S. Tuping, E. M. Kastrubin. Condition of the Newborn on Application of Electroanalgesia During Birth 147
- N. S. Kamenskaya, A. T. Efendiyeva, G. R. Giginshvili. Electrosleep as a Factor in Treating the Nervous System and the Neurohumoral System of Regulation in the Complex Treatment of Patients with Ischemic Heart Disease with Stenocardia 151
- E. M. Kastrubin. Application of the Neurotropic Effect of Pulsed Currents (Electrosleep, Electroanalgesia) for Preparing Pregnant Women for Birth 157
- N. A. Kostyukhina, S. I. Dobromyslova, G. A. Putan. Results of Treating Patients with Hypertension with Electrosleep 160

4/7

USSR

BANSHCHIKOV, V. M., Electrosleep in Medical Practice, RSFSR Ministry of Public Health, 1972, 256 pp

- N. A. Kostyukhina, G. A. Putan. Results of Treating Patients with Hypertonic Disease 11 Stage B Using Interference Currents 166
- Ye. I. Kulikova (Lebedinskaya), M. N. Kuznetsova, T. M. Sinitsyna. Comparative Evaluation of Electrosleep Therapy and the Complex with Electrosleep in the Presence of Agrypnia in Elderly and Old Patients 170
- Ye. I. Kulikova (Lebedinskaya), M. N. Kuznetsova, T. M. Sinitsyna. Catamnestic Observations of the Treatment of Elderly and Old Patients with Cerebral Atherosclerosis with Electrosleep 174
- A. D. Kurepina. Treatment of Certain Diseases in Children with Electrosleep 180
- F. F. Lomachenkova. Experiment in the Application of Electrosleep Under Stationary and Polyclinical Conditions of the LKlinakiy Rayon of Moscow Oblast 183
- M. Ya. Nikoladze. Therapeutic Application of Electrosleep in the Case of Hypertension 187
- Yu. S. Nikolayev, E. A. Leyzerovich. Electrosleep Combined with Unloading Dietetic Therapy of Psychological Diseases with Agrypnic Syndrome 190
- L. S. Persianinov, I. P. Ivanov, L. A. Safronova. Application of Neutropic Therapy with Pulsed Currents (Electrosleep) During Late Toxicoses 5/7 of Pregnant Women 197

USSR

BANSHCHIKOV, V. M., Electroleep in Medical Practice, RSFSR Ministry of Public Health, 1972, 256 pp

- O. O. Primakova, S. R. Roytenburd. Experiment in the Application of Electro-  
sleep in Combined Anesthesia 201
- O. O. Primakova, S. R. Roytenburd. Experiment in the Application of  
Electrosleep in Antishock Therapy 206
- T. N. Pugina. Treatment of Patients Suffering from Forms of Coronary  
Atherosclerosis with Electrosleep 211
- L. Ya. Rabichev. Electrosleep Therapy for Stuttering in Children 214
- N. N. Rastrigin, S. N. Dizna. Application of Electroanalgesia in  
Gynecological Patients During the Postoperation Period 219
- S. R. Roytenburd, Yu. N. Fedorovskiy, I. S. Robiner, Ye. M. Zhudro, M. I.  
Nikiforova, A. R. Fedorenko. Direct and Remote Results of Treatment of  
Patients Suffering from Obliterating Disease of the Arteries of the  
Extremities with Electrosleep 224
- G. F. Strel'tsova. Experience in Treatment with Electrosleep 233
- L. A. Studnitsyna, E. M. Orekhova. Differentiated Application of Electro-  
sleep During Treatment of Patients with Hypertension 236

6/7

USSR

BANSHCHIKOV, V. M., Electrosleep in Medical Practice, RSFSR Ministry of Public Health, 1972, 256 pp

- |  |     |
|--|-----|
| A. R. Fedorenko, R. I. Zubareva, N. R. Pokrovskaya. Electrosleep in the Treatment and Prophylaxis of Hypertension                                      | 242 |
| A. R. Fedorenko. Organizational Possibilities of the Introduction of New Methods of Diagnostics and Treatment Including Electrosleep in the Polyclinic | 246 |
| Z. I. Khaytin. Treatment with Electrosleep in Children's Polyclinical Practice in the Light of Future and Remote Results                               | 251 |

7/7



Publications

USSR

V. M. BANSChIKOV AND I. A. ShISHKINA (Editors)

Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy (Clinical Picture, Pathogenesis, and Therapy of Mental Diseases), abstracts of papers read at a conference of Moscow psychiatrists and neurologists commemorating the 160th anniversary of the founding of Moscow Mental Hospital No 3, 25 September 1972, Moscow, 1972, 464 pp

Translation:

Foreword

This collection contains abstracts of papers read at a scientific and practical conference sponsored by Moscow Municipal Mental Hospital No. 3. It was held at a significant time...to coincide with the outstanding event in the history of our people -- the 50th anniversary of the founding of the Union of Soviet Socialist Republics.

The achievements of the Soviet health system during this brief historic period are known to the entire world. They reflect the constant concern shown by the Soviet state for the health and welfare of the people of our country.

These days medical workers are taking an active part in a socialist competition now under way. Everywhere they are reviewing their accomplishments and discussing the most urgent matters relating to the protection of health and prevention and control of disease. They are outlining ways of dealing with

1/17

USSR

V. M. BANShChIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

and solving the problems presented by the 24th Congress of the Communist Party of the Soviet Union in the field of health care and medicine.

For the Soviet psychiatrists actively engaged in preventive work, the most urgent problems are those connected with the introduction of progressive principles of organizing psychiatric care and use of the best methods of diagnosing and treating mental disease.

The staff of one of the country's oldest mental hospitals, Moscow Mental Hospital No. 3 (the former Preobrazhenskaya Hospital for the Insane), which is carrying on the human traditions nurtured by the generations of progressive psychiatrists who worked within its walls, prepared for the anniversary with great seriousness. One of the results of such preparation was the above-mentioned scientific and practical conference at which the hospital physicians shared their experience. The conference was also timely because it coincided with the completion of the 20-year stage in the "psychopharmacological" era in psychiatry. The radical changes that took place during these 20 years in organizing and providing psychiatric care become quite evident when viewed against the historical background of one of the oldest mental hospitals that recently marked its 160th anniversary.

2/17

- 97 -

USSR

V. M. BANSChIKOV AND I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

This collection includes the reports of prominent clinicians and many practicing physicians working in research organizations, psychiatric clinics, medical schools, and psychoneurological hospitals of Moscow and other cities in the RSFSR. It consists of eight sections devoted to various timely problems pertaining to the prevention, pathogenesis, symptoms, and treatment of mental diseases (schizophrenia, affective psychoses, senile psychoses, epilepsy, endogenous organic psychoses, chronic alcoholism, and "borderline" states).

Special sections are concerned with the history of the hospital and organization of psychiatric care (section I), laboratory and experimental studies (section VII), and casuistic observations (section VIII).

We hope that the proceedings of the conference will be of interest to the broad psychiatric community and of use to the reader.

Editors

# Contents

Foreword...

3

## SECTION I. HISTORY AND ORGANIZATION OF PSYCHIATRIC CARE

Shishkina, I. A. "Alma mater" of Moscow psychiatry...

7

Kameneva, Ye. N. Therapy and clinical observations in the First Moscow

Municipal Mental Hospital During World War Two...

14

3/17

USSR

V. M. BANShCHIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Shishkina, I. A. Characteristics of and trends in the development of therapy in the Moscow Mental Hospital No. 3 During the Last 15 Years...	19
Gerish, A. G., N. N. Bazhenov and the organization of psychiatric care in the Voronezh Provincial Zemstvo rural self-government in prerevolutionary Russia...	26
Gerish, A. G., N. N. Bazhenov's correspondence on the organization of psychiatric care in World War One...	29
Shishkin, A. P. From the history of the sociohygienic trend in Soviet psychoneurology in the 1920s...	32
Berman, M. Ya. Organization of stomatological care in the S. S. Korsakov Psychiatric Clinic of the I. M. Sechenov First Moscow Medical Institute...	34
Surina, T. Ya. Reasons for the repeated hospitalization of schizophrenics residing in a densely populated area...	36
Kazanets, E. G. and L. A. Gogolev. Prospects for the use of computers to check on the quality of work done by non-hospital psychiatrists in therapy and in disability evaluation...	40

4/17

- 98 -

USSR

V. M. BANSChIKOV AND I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Kazanets, E. G., T. E. Paperine, and N. A. Umerenko. Prognostic modeling in a computer and development of individualized indications for outpatient care of schizophrenics...	42
SECTION II. CLINICAL PICTURE AND PATHOGENESIS OF MENTAL DISEASES	
Kamaneva, Ye. N. Mild, neurosis-like and sluggish schizophrenia...	47
Lunts, D. R. and M. F. Tal'tse. Psychogenic influences on the clinical picture of slowly developing paranoid schizophrenia...	52
Nevzorova, T. A. and L. G. Ursova. Pathomorphism of the schizophrenic process with a sluggish course...	55
Kondrat'yev, F. V. Differential diagnosis between schizophrenia and psychopathy...	59
Ordynskaya, A. B. Catamnesis of schizophrenics with a favorable course of the disease...	63
Zalmanzon, A. N., E. A. Yevlakhova, and A. I. Kudinov. Nature of symbolic phenomena in schizophrenia...	66
Podobed, M. P. and A. B. Savitskaya. Combination of paraphrenic manifestations with disconnected speech in the structure of acute paranoid states...	69

5/17

USSR

V. M. BANShChIKOV AND I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Podobed, M. P. Clinical differentiation of delirium-like fantasies and the paraphrenic syndrome...	73
Shablevich, V. P. Capgras's syndrome in an attack of schizophrenia...	77
Shablevich, V. P. One of the components of Capgras' syndrome -- the delusion of intermetamorphosis...	80
Smirnov, V. K. Psychopathological phenomenon of the "predicted" (on the pathology of consciousness in schizophrenia)...	84
Klimusheva, T. A., Z. P. Tsynskaya, and M. I. Ruzhanskiy. Pathomorphism of intermittent schizophrenia with an unfavorable course...	88
Belousov, I. N. Schizophrenic parents and children...	92
Belyayeva, K. N. Clinical and social-work prognosis for schizophrenics in old age...	94
Momot, G. N. Schizophrenia complicated by cerebral atherosclerosis...	97
Verbal'skaya, L. M. Readaptation to work and medical evaluation of the work capacity of persons with recurrent schizophrenia...	100
Bulavenko, N. D. Competence of schizophrenics who are also alcoholics...	104
Petrovskaya, M. A. and L. N. Chebysheva. Some features of the pathomorphism of endogenous depression in females in the involutional 6/17 period (Preliminary report)...	107

USSR

V. M. BANSChIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Belen'kaya, N. Ya. Phenomenon of bewilderment in vascular psychoses...	113
Morkovkin, V. M. Senile atherosclerotic psychoses...	116
Shmakova, L. A. Venous pressure in the clinical picture of cerebro-vascular disorders...	119
Morkovkin, V. M. Senile depression...	122
Dyambasuren, S. Comparative clinical and statistical data on cerebrovascular diseases with mental disturbances...	125
Zalmanzon, A. N., N. A. Lorens, and E. A. Yevlakhova. Nosological specificity in Pick's, Alzheimer's, and senile vascular diseases...	127
Zalmanzon, A. N., E. A. Yevlakhova, and N. A. Lorens. Structure of feeble-mindedness in Pick's disease...	129
Shmakova, L. A. Some data on Alzheimer's disease...	132
Feynberg, Yu. S. Clinical and electroencephalographic data in the differential diagnosis of senile psychoses...	135
Dusheyko, S. D. Pathological anatomy of Alzheimer's disease...	138
Dusheyko, S. D. Some aspects of the pathomorphology of the brain in elderly mental patients...	142

7/17

USSR

V. M. BANSChIKOV and I. A. ShIShKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

SECTION III. CLINICAL PICTURE AND THERAPY OF EPILEPSY AND ORGANIC BRAIN DISEASES

Golodets, R. G. Psychopathological aspect of resuscitation...	149
Pukhovskiy, N. P. Clinical characteristics of anxiety disorders after hypothalamic lesions...	153
Kameneva, Ye. N. and Ye. S. Leptochnikova. Casuistics of Schizoepilepsy...	156
Favorina, V. N. Some characteristics of the source of nonconvulsive epilepsy and differential diagnosis of schizophrenia...	161
Kachayev, A. K. Data on the epidemiology of alcoholic epilepsy...	166
Dokuchayeva, O. N. Psychogenic psychoses in traumatic epilepsy...	168
Subbotnik, S. I. Clinical and electroencephalographic studies in connection with residual phenomena of brain trauma...	172
Chebysheva, L. N. and M. A. Petrovskaya. Some changes in the electrical activity of the brain of epileptics caused by stimulation with continuous light...	175
Afanas'yev, Yu. I., A. Ya. Pappoport, L. A. Gogolev, and N. A. Umerenko. Study of the Effect of emotional stimulation on the autonomic sphere in epileptics with a generally unfavorable course of the disease...	179

8/17



USSR

V. M. BANShChIKOV and I. A. ShISHKIN., Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Vol'f, M. Sh. Definition of the concepts "side effects" and "drug complications" arising in the treatment of epilepsy...	182
Vol'f, M. Sh. Classification of side effects and complications arising in the treatment of epilepsy with modern anticonvulsants...	188
Shapiro, Yu. L., M. Sh. Vol'f, and M. Ya. Vayntrub. Hyperchronic and hypochronic anemias in epileptics after long-term anti-epileptic therapy...	200
Tunev, V. M. Some skin exanthemas appearing in epileptics treated with modern anti-epileptic agents...	206
SECTION IV. CLINICAL PICTURE, PATHOGENESIS, and THERAPY OF CHRONIC ALCOHOLISM	
Lorens, N. A. Clinical features of the course of alcoholic delirium in elderly persons...	213
Dement'yeva, N. F. Sensory delirium in the structure of acute states in alcoholic paranoia and schizophrenia...	217
Sudarev, Yu. N. and Ye. D. Finkel'shteyn. Analysis of the clinical picture of the withdrawal syndrome (from the records of a hospital for the treatment of drug addiction)...	220

9/17

USSR

V. M. BANSChIKOV and I. A. ShIShKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Kuznetsov, A. I. and M. R. Mozias. Addiction of alcoholics to dimedrol...	223
Bekhtel', E. Ye. Functioning of the choline receptors in alcoholics during a period of unstable remission...	225
Bekhtel', E. Ye. Change in functioning of the choline receptors in healthy persons and in alcoholics while intoxicated...	228
Zabrodin, G. D. and A. K. Kachayev. Dynamics of blood serotonin during disulfiram treatment of alcoholism...	231
Averbukh, I. Ye. Long-term follow-up of patients with alcoholic psychoses and its peculiarities in females...	234
Demichev, A. P. Clinical characteristics of the early stages of Gaye-Wernicke's alcoholic encephalopathy...	241
Demichev, A. P. Errors in the clinical diagnosis of Gaye-Wernicke's alcoholic encephalopathy...	244
Savel'yev, Yu. M. Neurological disturbances in chronic alcoholism...	244
Savel'yev, Yu. M. and N. Ya. Lifshits. Some results of rheovasography of patients with alcoholic polyneuritis...	246
Finkel'shteyn, Ye. D. Experience with the use of psychotropic agents in the treatment of chronic alcoholism...	248

10/17

USSR

V. M. BANSChIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Kupriyanov, A. T. Treatment of dipsomania in out-patient practice...	251
Kupriyanov, A. T. Organization of anti-alcoholic activities in industry...	254
Urakov, I. G., V. V. Kulikov, and M. I. Ruzhanskiy. Organization of group psychotherapy in a specialized hospital...	257
Dovgar', V. A., Yu. N. Sudarev, and I. G. Urakov. Preliminary data on the quantification of psychotherapeutic measures applied to chronic alcoholics...	260
SECTION V. THERAPY OF MENTAL DISEASES	
Banshchikov, V. M., Z. Ya. Kovaleva, and A. T. Masliye. Adaptogenic role of tranquilizers and anxiolytics in the biological and social rehabilitation of individuals with obsessions...	267
Banshchikov, V. M., P. P. Volkov, E. I. Voloshina, M. I. Zelenskiy, Ts. P. Korolenko, A. N. Kochergin, V. I. Panteleyev, A. S. Saratkov, S. A. Sakharova, and A. M. Shukalyuk. Psychopharmacology of chlorazicin under clinical and experimental conditions...	271
Kondratenko, R. P. Experience with the use of insidon in the treatment of depressions...	277

USSR

V. M. BANShChIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Shishkina, I. A., T. Ye. Nefedova, and A. V. Shmakov. Comprehensive approach to the study of progressive schizophrenia...	279
Zaloguyeva, V. L., M. Ye. Nefedova, and G. M. Smirnova. Combined use of insulin and neuroleptic agents in the treatment of schizophrenia with an unfavorable course...	283
Vlasov, Yu. P. and N. I. Berdnikova. ACTH and tryptazine treatment of schizophrenia...	286
Ruzhanskikh, M. I., T. A. Klimusheva, and E. A. Gurevich. Etaperazin treatment of paranoid schizophrenia with an unfavorable course...	289
Shurygina, G. S. and G. G. Berezina. Pyrogonal treatment of mental patients...	292
Kovaleva, Z. Ya. and A. T. Masliyev. Pharmacodynamic basis for the use of anxiolytics in the treatment of phobias...	298
Molchanov, G. M. and V. I. Fedortsov. Clinical characteristics of eunocin in the treatment of insomnia in patients with cerebrovascular disorders...	302
Grishina, V. I. Experience with graduated cryotherapy of elderly patients...	306

12/17

USSR

V. M. BANShtCHIKOV and I. A. SHISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Raykhinshteyn, M. Ye. Use of new balneological methods in the clinic...	309
Ayzenshteyn, F. A. Aspiration developing in schizophrenics treated with neuroleptics...	311
SECTION VI. "BORDERLINE" PSYCHIATRY	
Matveyev, V. F. and G. V. Kozlovskaya. Syndrome of pathological fantasizing against the background of pathological personality development in blind children...	317
Banshikov, V. M. and Ye. I. Kulikova (Lebedinskaya). Meteorotropic reactions in patients suffering from neurologic and mental disturbances...	321
Ambrumova, A. G. Hypochondriacal development of personality (particularly its unfavorable variation)...	324
Kudryavtsev, I. A. Hysterical reactive psychoses in individuals with post-traumatic psychopathic-like mental changes...	329
Bobrova, I. N. Postreactive mental changes...	333
Petrov, V. N. Clinical variations of psychopathic reactions...	336
Korolev, V. V. Dynamics of paranoid psychopathy (in relation to age)...	339
Danilova, M. B. and G. A. Skuratovich. Clinical features and course 13/17 of the paranoid syndrome within the framework of a psychopathy...	342

USSR

V. M. BANSChIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Shubina, N. K. Some characteristics of compensation in excitable psychopathic personalities...	344
Girich, Ya. P. Characteristics of repeated psychogenic depressions in children and adolescents...	347
Chernyshov, M. V. Mental reactions of people during devastating earthquakes...	349
Ursova, L. G. Age-related characteristics of somatopsychopathological correlations in acute myocardial infarction...	354
Vechkanov, V. A. Neurologic and mental changes in juvenile diabetes mellitus...	358
Raykov, V. L. Theoretical basis of deep hypnosis...	367
Raykov, V. L. Hypnosis and man's reserve capacity...	371
Nazarov, V. V. Role of reproduction of a phobic situation in the psychotherapy of obsessional neuroses...	373
Levi, V. L. Psychotherapy of patients with presuicidal states...	375
Babat, R. L., Ye. M. Sinayskaya, V. D. Stolbun, V. P. Strel'tsova, L. G. Strongin, and S. M. Tulenkova. Treatment of cystalgia with graduated centropetal-repercussive action with chloroethyl through the Zakhar'in-Head zone...	377

USSR

V. M. BANSChIKOV and I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

SECTION VII. LABORATORY AND EXPERIMENTAL STUDIES

Yevlakhova, E. A. Experimental Psychological study of emotions in schizophrenia...	383
Yakovleva, L. A. Clinical psychological study of mental patients with a history of myocardial infarction...	388
Barshtene, D. K. Change in true and pseudocholinesterase activity in schizophrenics with a continuous and recurrent course of the disease	391
Shapiro, Yu. L., T. A. Naumova, and R. S. Kushnir. Ontogenetic distribution of some enzymes and substrates in myeloid elements of bone marrow and peripheral blood in schizophrenics during therapeutic fasting...	393
Shvedkova, I. S. Some clinical and immunological parameters of paranoid schizophrenia of different intensities...	396
Ursova, L. G. Morphological changes in the brain after myocardial infarction...	399
Ivanov, V. S. Polygraphic study of sleep in affective psychoses...	403
Fedortsov, V. I. and M. I. Shpil'reyn. Acetylcholine content and cholinesterase activity in the serum of patients with cerebral atherosclerosis and sleep disturbances...	406

USSR

V. M. BANSCHIKOV and I. A. SHISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Klemyashev, G. P. Rabbit brain proteins in experimental atherosclerosis...	409
Polyakova, N. B. and M. Sh. Anticonvulsant action of tryptizol (amitriptyline-damilene) under experimental conditions...	411
Mirotvorskaya, G. N. and N. B. Polyakova. Histochemical changes in rat brain calcium in experimental convulsions...	417
Polyakova, N. B. and N. T. Khokhrina. Mechanism of the anticonvulsant action of benzonal...	421
Izraelit, M. A., V. M. Avakumov, and A. Ye. Demakov. Psychopharmacologic characteristics of pantogam and pyridoxine disulfide...	425
Banshchikov, V. M. Ye. I. Kulikova (Lebedinskaya), and D. A. Arsent'yev. Dynamics of the bioelectrical activity of the rabbit cerebral cortex and subcortical structures in electrosleep...	429
Fedorovskiy, Yu. N. and B. N. Maksimov. Rheoencephalography in healthy children...	433
SECTION VIII. CASUISTICS	
Momot, G. N. Psychoses in pernicious anemia...	437
Concharova, G. N. Combination of brain syphilis and schizophrenia...	439
Rokhlina, M. L. Manic-depressive psychosis with daily alternation of 16/17 opposite phases...	444



USSR

V. M. BANSChIKOV And I. A. ShISHKINA, Voprosy Kliniki Patogeneza i Terapii Psikhicheskikh Zabolevaniy, 25 September 1972, 464 pp

Lebedeva, T. V. A peculiar variation of a visual hallucinosis... 448  
Gramakova, Ye. A. and M. P. Podobed. Correlation of delirium-like  
fantasies of hysterical origin and paraphrenic manifestations in  
schizophrenia... 451  
Dusheyko, S. D. and V. A. Ivanov. A case of schizophrenia with a fatal  
outcome due to a drug allergy... 457

17/17

AA0044790

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

2/70

243259 MEASURING THE ADHESION OF PARTICLES to a prepared electrode by imposing a powerful electrical field is effective by loses accuracy if the exact breakaway point cannot be observed. The proposed design offers observation by making the electrode transparent. The diagram shows the upper transparent electrode 1 carrying a transparent conducting coating 2, on the lower surface of which are deposited the particles 12, of which the breakaway force is to be determined; these are distributed not less than 2-3 diameters apart. The lower electrode 6, in net form, is replaced, with ring 7, after inserting the particles,

AUTHORS: Myazdrikov, O. A.; Nikolayev, O. S.; Puzanov, V. N.;

Bantikov, V. S.; Yekimova, N. F.

Leningradskiy Institut Aviatsionnogo Priborostroyeniya

113

18

19771610

AA0044790

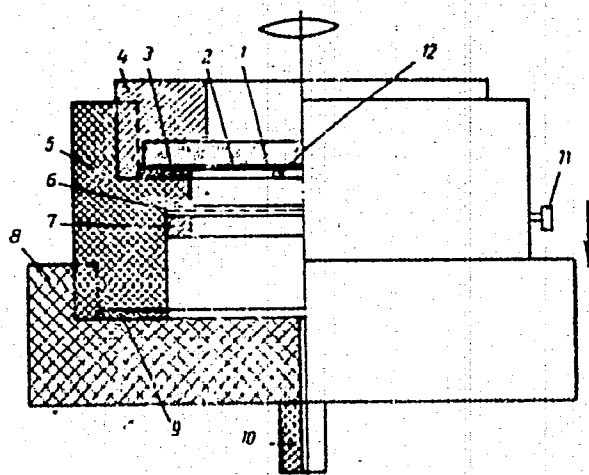
sealing cap 8 replaced and the cavity filled with some gas at required pressure via nipple 10. The assembly is then placed under the microscope and a high voltage applied between terminal 11 of 6, and 4. Under the microscope the largest particles are selected for observation and their mean diameter estimated. As the specification shows mathematically, the adhesion force is a function of the square of the breakaway voltage and, inversely, the particle mean radius. These functions are observed by microscope, hence the force can be calculated.

23.12.67 as 1205295/26-25.0.A.MYAZDRIKOV et al.  
(LENINGRAD) AVIATION INSTRUMENTATION INST.(23.9.69)  
Bul 16/5.5.69. Class 421. Int.Cl.G Olm.

2/3

19771611

AA0044790



3/3

19771612

2

AF0044746

Bantsevich, V. G.

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

241063 TEMPERATURE AND LUMINESCENCE METHOD OF LEAK  
DETECTION, for hollow components, can be  
applied as a test method for fluid-tightness by  
completely filling the component with a luminescent  
liquid, for example, a penetrant, sealing it up  
and exposing it to UV irradiation. Any leakage of  
the penetrant fluid, resulting in gathering of fluid  
on the outer surface, will be visually detected by  
luminescence. In order to provide excess internal  
pressure the component, after filling and sealing is  
placed in a heating chamber, for a given time at a  
given temperature, to cause volumetric expansion of  
the contained detector fluid.

20.3.67 as 1142371/25-28. I.L.LYAPKALO et alia.  
DNIEPROPETROVSK UNIVERSITY. (15.8.69) Bul 13/1.4.69  
Class 42k. Int.Cl.G Oln.

MT

19771506

AA0044746

AUTHORS: Lyapkalo, I. L.; Bantsarevich, V. G.; Belyayev, N. M.; Nerovnya, I. V.;  
Slipchenko, V. S.; Kobyakin, V. V.

Dnepropetrovskiy Gosudarstvennyy Universitet

19771507

7/2

USSR

BAPTIZMANSKIY, V. I., BAKHMAN, N., DMITRIYEV, Yu. V., PROSVIRIN, K. S.,  
SHEVELEV, V. V., YANKELEVICH, Ya. P., PODGORODETSKIY, A. A.

"The Problem of the Use of Coagulators During Deoxidation of Steel by Aluminum"

Moscow, Izv. Vuzov, Chernaya Metallurgiya, No 2, 1971, p 51-55.

Abstract: Analysis of the hydrodynamic and thermodynamic factors shows the possibility of using secondary large particles as coagulators for the products of deoxidization of steel with aluminum. The introduction of crushed lime, feldspar, and aluminum to the center mass during deoxidization in the process of siphon pouring of seven-ton ingots of type 3 kp steel was tested. Studies of rolled products produced from these ingots confirmed experimentally the possibility of reducing the level of contamination of the steel with stable nonmetallic inclusions by combined introduction of deoxidizers and coagulators.

1/1

Entomology

USSR

MELIKADZE, L. D., MIKADZE, L. D., SHONIYA, D. I., GURGENIDZE, Z. I.,  
BARABADZE, Sh. Sh., and AZKHAZAVA, I. I., Georgian Institute of Plant  
Protection

"Olfactometry to Evaluate Chemical Attractants"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1972, pp 473-476

Abstract: A description is given of a device used to test attractants of the European spruce bark beetle (*Dendroctonus micans*) and other insects. Unlike other olfactometric methods, it can determine the optimum concentration of an attractant in the air. Air is fed through a thermostat-controlled heating coil and bubbler containing the substance tested. The temperature is controlled to keep the vapor pressure uniform. The air saturated to the same concentration by the vapor of the attractant (working mixture) enters the working part of the olfactometric unit. Both the control and the working parts of the unit are divided into three chambers. The working mixture after entering the olfactometer gradually fills the three chambers and through openings in the bottom of the third chamber diffuses along a platform where the insects are kept. An equal amount of pure air flows from the control part and moves along the platform in the opposite direction, creating a concentration

1/2



USSR

MELIKADZE, L. D., et al., Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 2, 1972, pp 473-476

gradient along the platform. Depending on the reaction of the insects to the substance, they crawl into the working or control part of the olfactometer. The optimum concentration is determined (a) from a curve showing the dilution of the working mixture at the outlet from the third chamber of the olfactometer and (b) from the dynamics of migration of the insects in time. The optimum concentration is that which attracts the most insects.

UDC 538.566

USSR

BARABANENKOV, Yu. N., KRAVISOV, Yu. A., RYTOV, S. M., and TATARSKIY, V. I.,  
Radio Engineering Institute and Institute of Atmospheric Physics, both of the  
USSR Academy of Sciences, and the All-Union Scientific Research Institute of  
Physical-Optical Measurements

"Status of the Theory of Wave Propagation in a Randomly-Inhomogeneous Medium"

Moscow, Uspekhi Fizicheskikh Nauk, Vol 102, No 1, 1970, pp 1-42

Abstract: Existing methods of calculation in the theory of wave propagation in randomly-inhomogeneous media and the limits to their applicability, along with recently introduced methods of examining the multiple scattering of waves, such as the Markovian approximation and the parabolic equation method, or the use of procedures first developed in quantum electrodynamics and now used to sum up series in perturbation theory are surveyed in this review of 542 literature references. Due to the scope of this field of investigation, only problems of bulk scattering in continuous media for free propagation are examined. The omitted areas thus include: reflection at randomly-uneven surfaces; scattering at discrete disseminates, such as artificial scattering materials, aerosols, raindrops, and snow in the atmosphere, or bubbles and fishes in the water; and the propagation of waves in randomly-inhomogeneous feeder cables.

1/1

USSR

UDJ 558.56:519.25

BARABANENKOV, YU.N. [Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-  
tekhnicheskikh i radiotekhnicheskikh izmereniy--All-Union Scientific-Research  
Institute Of Physicotechnical And Radiotechnical Measurements]

"Applicability Limits Of The Equation For The Mean Field In A Discrete Scattering  
Medium With Scatterer Correlations Taken Into Account"

Izv.VUZ:Radiofizika, Vol XV, No 8, Aug 1972, pp 1220-1227

Abstract: The coherent scattering of scalar waves by a scattering medium consisting of correlated discrete scatterers and occupying the sphere volume is discussed. The paper considers the problem of when it is necessary in a Dyson's equation to take into account two-particle correlations of scatterers and when it is possible to neglect the three-particle ones. The answer lies in the fact that the permissible values of the non-ideal ensemble of scatterers must be on the order of, or larger than, unity and generally speaking less than some maximum value. Furthermore, it is assumed that it is possible to replace the Dyson's equation by a Helmholtz equation with an effective wave number and to solve this Helmholtz equation in an approximation of geometrical optics, disregarding reflection and refraction of the waves at the boundary of the medium. In the case of waves, long in comparison with the correlation radius of the scatterers, the  $1/2$

USSR

BARABANEIKOV, YU. N., Izv. VUZ: Radiofizika, Vol XV, No 8, Aug 1972, pp 1220-1227

extinction coefficient is calculated with two-particle correlations of scatterers taken into account. Corrections to the amplitude of the coherent scattering of a wave by a sphere are estimated. It is shown that conditions in which contributions of these corrections to the cross section of attenuation or "absorption" and scattering are negligibly small may be formulated in terms of the effective wave number and the parameter of the non-ideal ensemble of the scatters. 7 references. Received by editors, 24 May 1971; after further improvement, 20 March 1972.

2/2

- 15 -

Acc. Nr.: AM0104084

Ref. Code: 4R0000

Glushkov, V. M.; Barabanov, A. A.; Kalinichenko, L. A.; Mikhnovskiy, S. D.;  
Rabinovich, Z. L.

Computers With Developed Interpretation Systems (Vychislitel'nyye mashiny s razvityimi sistemami interpretatsii) Kiev, 1970, 258 pp (SL:2012)

TABLE OF CONTENTS:

Preface		5
Chapter I	The Concept of Internal Mathematical Security	7
II	Structural Interpretation of Developed Internal Languages	40
III	Dynamic Distribution of Memory in Digital Computers	93
IV	Design Principles of Operational Systems	142
V	Investigation of Organization of the Computing Process	183
VI	General Methods for Development of Algorithmic Structures of Computers	209
VII	Synthesis of Microprograms and Automatic Stacks	230
Bibliography		254

REEL/FRA  
19870477

1/2 036 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--ON CALCULATING THE KINETIC COEFFICIENTS OF METALS ALLOWING FOR  
SEVERAL MOMENTS -U-  
AUTHOR-(02)-BARABANOV, A.F., MAKSIMOV, L.A.  
COUNTRY OF INFO--USSR *B*  
SOURCE--FIZIKA METALLOV I METALLJVEDENIE, MAR. 1970, 29, (3), 471-478  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--PHYSICS, MATERIALS  
TOPIC TAGS--METAL ELECTRICAL CONDUCTIVITY, ELECTRON SCATTERING, ELECTRON  
DISTRIBUTION, ALUMINUM, HALL CONSTANT, THERMAL EMF, KINETIC EQUATION,  
CALCULATION  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1820 STEP NO--UR/0126/70/029/003/0471/0478  
CIRC ACCESSION NO--AP0129188  
UNCLASSIFIED

2/2 036

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0129188

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PROBLEMS ARISING IN THE CALCULATION OF THE KINETIC COEFF. AND ASSOCIATED ELECTRICAL PROPERTIES OF METALS ARE DISCUSSED THEORETICALLY. IN ORDER TO ALLOW FOR THE TEMP. DEPENDENCE OF THE SCATTERING ANISOTROPY, MORE THAN ONE MOMENT HAS TO BE INTRODUCED INTO THE EXPRESSION FOR THE INCREMENT TO THE EQUILIBRIUM ELECTRON DISTRIBUTION FUNCTION WHEN USING THE STANDARD METHOD BASED ON THE MOMENTS OF THE KINETIC COEFF. IN THE CASE OF SUCH METALS AS AL, THE INTRODUCTION OF A SECOND MOMENT LEADS TO A CONSIDERABLE CHANGE IN THE ELECTRICAL RESISTANCE, HALL CONSTANT, AND THERMAL E.M.F. IN THE LOW TEMP. REGION.

UNCLASSIFIED

Gyroscopic

USSR

UDC: 621.313.17

BARABANOV, V. A., Institute of Electrodynamics, Academy of Sciences of the Ukrainian SSR

"On the Possibility of Making a Gyroscope With Ball Rotor on a Magneto-hydrodynamic Suspension"

Kiev, Problemy Tekhnicheskoy Elektrodinamiki. Resp. Mezhd. Sb. Elektromagnitnyye i Poluprovodnikovyye Ustroystva Preobrazovatel'noy Tekhniki, No 29, 1971, pp 160-162

Abstract: The paper describes one of the possible solutions of the problem of creating highly reliable precision instruments utilizing the principle of a three-degree asynchronous machine with spherical rotor. In practice, this method is realized in the device shown diagrammatically in Fig. 1. The main carrier of the kinetic moment is steel ball rotor 1, which is located in cylindrical block 2 having a spherical recess. The ball is supported within the recess by a heavy conductive liquid which forms an envelope 3 separating the rotor surface from the recess during operation. Cavity 5 is filled with a gas or liquid. Block 2 is accommodated by a hollow in stator 4. The figure also shows angle-data transmitter 6.

1/2



USSR

BARABANOV, V. A., Probl. Tekhn. Elektrodinam. Resp. Mezhd. Sb. Elektromagnit. i Poluprovodn. Ustroystva Preobrazovatel'n. Tekhn., No 29, 1971, pp 160-162

In operation, the rotating magnetic field set up by the stator interacts with the conductive liquid envelope, causing it to rotate. Thus the envelope can be considered as a second rotor. The motion of the liquid envelope is characterized not only by its velocity, but by the velocity distribution over its profile. Curve a in Fig. 2 represents such a distribution for one of the sections of the envelope (AA in Fig. 1);  $n$  is the direction of the normal, and  $v$  is velocity; numbers correspond to Fig. 1. Curve b in Fig. 2 shows the velocity distribution for a nonconductive, non-magnetic liquid, in which case  $dv/dn$ , and hence the friction in the suspension is considerably greater. Thus a device of this type has considerable design advantages resulting from more economic solution of the problem of eliminating frection. Two figures, bibliography of two titles.

Fig. 1

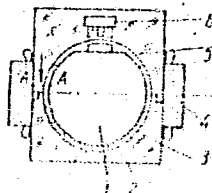
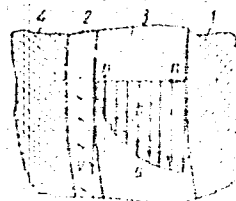


Fig. 2



2/2

1/2 019 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--PREPARATION OF SOME POLY,KETO ESTERS -U-  
AUTHOR--(04)-DAVYDOVA, S., BARABANOV, V.A., DOBROVOLSKAYA, N.V., PLATE,  
N.A.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 475-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--KETONE, ESTER, COMPLEX COMPOUND, POLYMER, PHENOL, ACETIC  
ACID, TAUTOMERISM, SODIUM COMPOUND, POTASSIUM COMPOUND, LIGAND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/1184 STEP NO--UR/0062/70/000/002/0475/0416  
CIRC ACCESSION NO--AP0120031  
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120031

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OXALOACETIC (I), TEREPHTHALOYLDIACETIC, AND TEREPHTHALOYLBIS(ACETOACETIC) ACIDS WERE CONDENSED WITH DIOLS SUCH AS HEXANEDIOL, BISPHENOL A, ETC. EITHER IN A MELT OR IN MEPh OR C SUB6, H SUB6 TO GIVE POLYMERS POLYESTERS WHICH WERE SOL. IN POLAR SOLVENTS, CAPABLE OF KETO ENOL TAUTOMERISM, AND ABLE TO FORM TRANSITION METAL COMPLEXES. THE COMPLEX FORMATION OCCURRED ONLY VIA THE NA OR K DERIVS. OF THE I POLYMERIC LIGANDS, WHILE THOSE FROM II FORMED COMPLEXES READILY BY A PREVIOUSLY REPORTED ROUTE (DAVYDOV, ET AL., 1968). FACILITY: INST. NEFTEKHIM. SIN. IM. TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED

BARABANOV, V. N.

RAM / K-760 / 5-MAY-73  
K. C. C. 12

$$Fo = \frac{q''_0}{\rho_m} \quad \text{or} \quad Fo = \frac{q''_0(T - T_0)}{\rho_m}$$

is the coefficient of temperature conductivity at  $T_0 = 293^\circ \text{K}$ ,  $r$  is the heating duration, and  $b$  is the temperature rise rate on the surface of the carrying portion) permits a relationship to be established between  $F_0$  and  $d_{\text{bend}}$  (the bending strength of the asbestoslike sheet). The required initial thickness of the protective covering can be determined using this relationship and taking the aerodynamic heating conditions into account.

Udovskiy, A. L., N. O. Gusman, and  
V. N. Barabanov. Effect of test  
temperature on the energy of destruction  
of graphite. Problemy proektsirovaniya, 5,  
1972, 83-84.

To assess the effect of test temperature upon local characteristics of the energy of destruction, bending tests were conducted on specimens of fine-grain, homogeneous 8 x 8 x 40 mm graphite. The graphite was mechanically practically isotropic. The intensity of the elastic deformation energy release (the destruction ductility) was determined within the temperature range  $20^\circ$  to  $2000^\circ \text{C}$ . A lateral crack was simulated in each specimen by incision with a fret saw and tapering with a razor blade. The experiment was conducted on a test machine equipped with a low-lag resistance furnace. The high-temperature tests were conducted in an argon atmosphere. In the first stage of operation, at  $20^\circ \text{C}$ , the relationship of destruction ductility  $G$  to the relative incision size  $c/d$  was determined. More than 90 specimens were tested under conditions of

USSR

UDC 629.12.011.753:539.4.012.2

BARABANOV, N.V., NOVIKOV, V.V.

"Special Features of Stress Distribution in the Vicinity of Stern Doors and Other Openings in the Ship Hull"

Leningrad, Sudostroyeniye, No 1, 1971, pp 12-14

Abstract: The article deals with the determination of the maximum stresses in the vicinity of the stern doors and other hull openings on the basis of the concentration coefficient, and with selection of the optimal forms of rounding. 5 figures, 1 table. 3 bibliographic entries.

1/1

USSR

UDC: 669.71.472

FORSBLOM, G. V., SEMENOV, V. S., SMORODINOV, A. N., PARAMONOV, S. A.,  
BARABANOV, P. S.

"Artificial Cooling as a Method of Intensification of the Operation of Aluminum Electrolyzers"

Tr. Vses. N.-I. i Proyeht. In-ta Alyumin., Magn. i Elektrod. Prom-sti [Works of All-Union Scientific Research and Planning Institute for the Aluminum, Magnesium and Electrode Industry], 1972, No 82, pp 15-25 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G169, by G. Svodtseva).

Translation: Tests were performed at one plant of a group of electrolyzers, equipped with various artificial cooling systems. The effectiveness of the cooling was estimated on the basis of full thermal and energy balances. The maximum increase in thermal losses amounted to 50-55,000 watts. The increase in yield per current in cooled electrolyzers was facilitated by thicker and more constant linings. The transfer of metal in cooled electrolyzers was 1.5-2 cm less than in ordinary electrolyzers. The mean parameters of the technological mode and data on the yield per current and consumption of electric power are presented. The use of a forced electrolyzer can facilitate the

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USSR

Forsblom, G. V., Semenov, V. S., Smorodinov, A. N., Paramonov, S. A., Barabanov, P. S., Tr. Vses. N.-I. i Proyekt. In-ta Alyumin., Magn. i Elektrod. Prom-sti, 1972, No 82, pp 15-25.

solution of the important economic problem of utilization of daily and seasonal excesses in electric power plant capacity.

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- 89 -

Acc. Nr: AP0106046

Ref. Code: 11R0307

PRIMARY SOURCE: Vestnik Leningradskogo Universiteta, No 6 ,  
Geologiya, Geografiya, 1970, Nr 1 , pp64-81

V. F. Barabanov

To geochemistry of wolfram

On the basis of generalization of numerous personal investigations in the field of mineralogy and geochemistry of wolframite ore deposits with employment of possible literature are considered some features of chemistry and geochemistry of wolframites, its abundance in nature, forms of transportation of its compounds and conditions of forming the most important endogenic wolframites. The dependence of mineral composition of wolframite are deposits upon chemical composition of wall rocks is shown.

REEL/FAME  
19881265



USSR

UDC 547.26'118

BARABANOV, V. I., SAZONOVA, Z. Ya., MOLODYKH, Zh. V. Kazan Veterinary  
~~Institute~~ imeni N. E. Bauman

"Synthesis of Halogenated Phosphorylated Acetals of Chloral and Bromal"

Leningrad, Zhurnal Obshchei Khimii, Vol 40, No 6, Jun 70, pp 1260-1262

Abstract: Biologically highly active esters (I) were obtained from the reaction of halogen-substituted hemiacetals of chloral and bromal with dipropyl chlorophosphite. I were prepared by mixing 0.1 g-mole of hemiacetal and 0.1 g-mole triethylamine in diethyl ether, cooling the mixture, and adding dropwise dipropyl chlorophosphite. Physical data for many such compounds are given in tabular form.

1/1

USSR

UDC: 542.91+661.718.1+661.731

BARABANOV, V. I., SAZANOVA, Z. Ya., and KAUSHANER, V. S., Kazan' State Veterinary Institute imeni N. E. Bauman

"Biologically Active Amides of Trichloroacetic and Dimethylthiophosphoric Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2464-2466

Abstract: A series of amides of trichloroacetic (I-IV) (I -- trichloroacetylenamide, II -- trichloroacetylpiperidylamide, III -- trichloroacetyldiethylamide, IV -- trichloroacetylbutylamide) and dimethylthiophosphoric acids (V-IX) (V -- ethylenamide, VI -- piperidylamide, VII -- methyl amide, VIII -- diethyl amide, IX -- butyl amide of dimethylthiophosphoric acid) were synthesized by interacting the corresponding acid chlorides with ethylenimine, piperidine, methyl amine, diethyl amine and butyl amine in ether in the presence of triethyl amine. In the reaction with methyl amine and butyl amine, the individual product was isolated after action of the acid chloride, and another acid chloride was then reacted with the remaining hydrogen atom. The result was mixed amides of trichloroacetic and dimethylthiophosphoric acids (XI, XIII)

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USSR

BARABANOV, V. I., et al, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2464-2466

(XI -- N-methyltrichloroacetoamidodimethylthiophosphate, XIII -- N-butyltrichloroacetoamidodimethylthiophosphate). Also synthesized were N-butylbis(trichloroaceto)amide (X), N-methyl-N-dipropylphosphite-amidodimethylthiophosphate (XII) and N-butyl-N-dipropyl-phosphite-amidodimethylthiophosphate (XIV). The synthesized amides of dimethylthiophosphoric acid were reacted with chloral to produce N-alkyl-N- $\alpha$ -hydroxy( $\beta, \beta, \beta$ -trichloroethyl)-amides of dimethylthiophosphoric acid (XVI, XVII). N-Butyl-( $\alpha$ -hydroxy- $\beta, \beta, \beta$ -trichloroethyl)trichloroacetamide  $\text{CCl}_3\text{CON}[\text{CHOHCCl}_3]_3\text{C}_4\text{H}_9$  (XV) was synthesized by interacting (IV) with chloral. It was found that compounds (I) and (V) may be used for sexual sterilization of flies, and that compounds (II) and (VI) are antihelminthic. The products of interaction of amides with chloral have insecticidal properties equal to those of chlorophos, but they are considerably more toxic.

2/2

- 27 -

USSR

UDC: 661.66+677

DERGUNOV, N. N., FROLOV, V. I., RIPP, N. Ye., SOSEDOV, V. P., BARABANOV,  
V. N.

"Toughening of Carbon Fiber Under Cyclic Loading"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 1, 1 May 73, pp 70-71

Abstract: It was found that carbon fibers obtained by heat treating polyacrylonitrile filaments are toughened by cyclic stressing. The maximum toughening effect is observed when the maximum stress in a cycle is 60% of the ultimate strength of the fiber and 1000 cycles are used. The results are attributed to localized plastic deformation with resultant stress relaxation, as well as the crushing of fibrils. Increasing the number of stress cycles to 10,000 and the maximum stress in a cycle to 80% of the ultimate strength of a fiber brings the toughness of carbon filaments back to the original level. This is explained by an increase in cracks and pores.

1/1

USSR

UDC 539.61:620.17:546.26-162

VOLKOV, G. M., BARABANOV, V. N., VIRGIL'YEV, YU. S., ZAKHAROVA, YE. N., and  
LEONT'YEV, YE. A.

"The Influence of Crystallite Size Upon the Strength of Coal-Graphite Materials"

Kiev, Problemy Prochnosti, No 1, Jan 72, pp 113-115

Abstract: The influence of the nuclear and electron structure of a graphite crystallite upon the mechanics of its breakdown is studied. Use is made of molecular diagrams of some compounds of the homologous series of aromatic hydrocarbons, obtained by Pulman via wave-mechanics calculations by the method of molecular orbits. The influence of the size of graphite crystals upon the strength of carbon pyroceramic material was demonstrated. The experimental data were compared with results of structural research by optical-microscope and electron-microscope methods. Three figures, 4 references.

1/1

- 63 -

USSR

UDC 539.61:620.17:546.26

VOLKOV, G. M., BARABANOV, V. N., DERGUNOV, N. N., ZAKHAROVA, Ye. N., and KALUGIN, V. I., Moscow

"The Effect of the Structure of Graphite on Its Strength"

Kiev, Problemy Prochnosti, No 12, Dec 72, pp 65-67

Abstract: The mechanical strength of artificial graphites depends not only on the dispersed structure of the material, but also on its crystalline and supermolecular structure, which is the secondary structure developed as a result of different arrangement of crystallites. The effect of artificial defects of supermolecular structure on mechanical strength of pyrographite and its bonding strength is discussed by reference to diagrams and photomicrographs of its polished surface. The effect of precipitation strengthening of carbonic material as a result of decreased concentration effect of supermolecular structural defects was used for the development of a new class of carbon materials, the carbonic Pyroceram. The characteristics of the USB-15 Pyroceram are presented. Five illustrations, eight bibliographic references.

1/1

Graphite

USSR

UDC 539.21

ZAYTSEV, G. G., BARABANOV, V. N., and DEYEV, A. N., Moscow

"Study of the Elastic Properties of Carbon Materials During Heat Treatment"

Kiev, Problemy prochnosti, No 1, Jan 71, pp 110-113

Abstract: A study was made of a broad class of carbon formations used in the production of various types of artificial graphite. Heat-treated (annealed) carbon materials produced from two types of petroleum coke were studied. The method of study included isothermal holding at 1250, 1400, 1700, 2000, and 2500°C. The dependences of the change in the modulus of elasticity of the compositions during this subsequent heat treatment are presented. The relaxation times, values of activation energy, and changes in modulus of elasticity were determined during the isothermal holding. The concept of the dipoles of carbon atoms in various energy states is introduced. It is demonstrated that the activation energy for a change in modulus of elasticity during heat treatment can be explained as the energy of certain dipole-dipole transistions in the carbon structure.

1/1

USSR

UDC 546.9+541.124.7

BARABANOV, V. P., TSENTOVSKIY, V. M., TRET'YAKOVA, A. YA., ZAGIBULLINA, D. SH., KHARRASOVA, F. M., ERRE, E. A., and RAKHIMOVA, G. I., Kazan Chemical Technological Institute imeni S. M. Kirova

"Ionization Constants of Alkyl(aryl)phosphonic and Arylphosphonous Acids in Acetone"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 11, 1972, pp 2431-2434

Abstract: The influence of the nature of the substitution groups on the ionization constants was determined for the title compounds. The  $pK_a$  was determined in acetone from the potentiometric titration curve. The behavior of phosphinic and phosphonic acids in acetone is different from that in water. Compounds having two different  $pK_a$  values for the loss of two different protons in water show only one  $pK_a$  in acetone and it is much higher than either of the  $pK_a$ 's in the water environment. The  $pK_a$  increases in the

series:  $p\text{-ClC}_6\text{H}_4 < \text{C}_6\text{H}_5$ ,  $p\text{-CH}_2\text{C}_6\text{H}_4 < \text{Et} < p\text{-CH}_3\text{OC}_6\text{H}_4$ . The  $pK_a$  in acetone may be calculated from the standard  $pK_a$  by the following formula:

$$1/1 \quad pK = pK_{cr.} \pm \frac{E_{1/2} - E_{1/2, cr.}}{0.059}$$



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UDC 546.9 + 541.124.7

BARABANOV, V. P., TSENTOVSKIY, V. M., TRET'YAKOVA, A. YA., KHARRASOV F. M., and BREYENKOVA, V., Kazan' Chemical-Technological Institute Imeni S. M. Kirov

"Ionization Constants of Some Arylphosphonic, Aryltrichloromethylphosphinic, and Arylphosphonous Acids in Dimethylformamide and Acetone"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1147-1150

Abstract: Thermodynamic ionization constants for some aryl(alkyl)phosphonic and arylphosphinic acids in dimethylformamide at 25° were determined by the potentiometric method. It was established that the substituent at the phosphorus atom has a strong effect on the ionization of the acids. In connection with a change in electronegativity of the substituent, ethylphosphonic acid is weaker than the phenylphosphonic acid. Introduction of a chlorine atom into the para position of the phenyl group increases the proton donating ability of the compound. Replacing one hydroxyl group by trichloromethyl radical increases the acid strength by almost a 4 fold order.

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Acc. Nr:

AP0052440

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

4R0460

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101175c Structure of the macromolecular chain of  $\alpha$ -chloroacrylic acid copolymers. Barabanov, V. P.; Tsentovskii, V. M. (Kazan. Khim.-Tekhnol. Inst. im. Kirova, Kazan, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 92-3 (Russ).  $\alpha$ -Chloroacrylic acid (I), poly( $\alpha$ -chloroacrylic acid), and I-Me methacrylate copolymer (II) were titrated in  $\text{HCONMe}_2$  with a  $\text{Et}_4\text{NOH}$  soln. in  $\text{MeOH}$ . The potentiometric titrn. curve had 2 inflections corresponding to 5, 10, and 15% I content in II, suggesting that the copolymn. of I with Me methacrylate gave polymeric units having the properties of dicarboxylic acids.

CKJR ]

JK

REEL/FRAME

19821074

USSR

UDC 547.242

TSENTOVSKIY, V. M., BARABANOV, V. P., KHARRASAVA, F. M., and BUSYGINA, T. A.,  
Kazan' Institute of Chemical Technology imeni S. M. Kirov

"Study of Ionic Association of Onium Salts in Solutions. IV. Conductance'  
of Tetraalkyl(aryl)phosphonium Halides in Acetone, Dimethylformamide and  
Nitromethane"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 8, Aug 71, pp 1659-1662

Abstract: The article describes results of a study of the conductance of tetraphenylphosphonium chloride, bromide and iodide and tetrabutyl-, tetra-  
anil- and tetrahexylphosphonium bromides in acetone, nitromethane and di-  
methylformamide. It is shown that the association capacity of ions is deter-  
mined by the nature of the hydrocarbon radical of the phosphonium cation,  
as well as the nature of the anion, and is retained in the transition from  
acetone to nitromethane and dimethylformamide, despite the decrease in size  
of the solvated ion.

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USSR

UDC: 547.242

*B*  
TSENTOVSKIY, V.M., BARABANOV, V.P., CHERNOKAL'SKIY, B.D., BAYRAMOV, R.B., and  
KAMAY, Gil'm, Kazan' Chemical Technological Institute imeni S.M. Kirov, Kazan,  
Ministry of Higher and Secondary Specialized Education RSFSR

"Study of Ionic Association of Onium Salts in Solution. I. Conductivity of Tetraphenylarsonium Iodide in Acetone and Propyl Alcohol"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 4, Apr 70, pp 831-833

Abstract: The authors studied the conductivity of tetraphenylarsonium iodide in acetone at temperatures ranging from 20 to 40°, as well as in propyl alcohol at 25°. The form of the concentration dependence of the equivalent conductivity in acetone is complex. There is an increase in conductivity with an increase in concentration from  $0.39 \cdot 10^{-4}$  to  $3.12 \cdot 10^{-4}$  m., then a decrease in conductivity with a further increase in concentration. In propyl alcohol the dependence of  $\lambda$  on  $\sqrt{c}$  is expressed by a straight line. The conductivity of the salt in

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TSETOVSKIY, V. M., et al., Zhurnal Obshchey Khimii, Vol 40, No 4,  
Apr 70, pp 831-833

acetone increases with a rise in temperature, despite the fact that  
permittivity declines. It is suggested that with dilution in acetone  
there is a change in the structure of the particles participating in  
the transfer of electricity.

2/2

- 37 -

USSR

UDC 681.3

KUZ'MIN, I. V., BARABASH, I. P.

"Mathematical Model of the Structure of a Logic Device"

Tekhn. Kibernetika, Vyp. 8, [Engineering Cybernetics, No 8--Collection of Works], Kiev, 1970, pp 47-54, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V598 by V. Mikheyev).

Translation: The following are proven:

Theorem 1. Suppose function  $F(\omega_1, \omega_2, \dots, \omega_N)$  ( $N \geq 2$ )<sup>k</sup> depends significantly on all  $N$  arguments. Then there are functions  $\psi_i(x_1, x_2, \dots, x_k, y_1, y_2, \dots, y_m)$  ( $1 \leq i < 2^k$ ) and (if  $N > 2^h$ )  $x_j(x_1, x_2, \dots, x_k)$  ( $2^k + 1 \leq j < N$ ) such that in a logic algebra function  $f(x_k, y_m)$  can be represented in the form:

$$f(x_k, y_m) = F(\psi_1(x_1, x_2, \dots, x_k, y_1, y_2, \dots, y_m), \dots, \psi_{2^k-1}(x_1, x_2, \dots, x_k, y_1, y_2, \dots, y_m), x_{2^k+1}(x_1, x_2, \dots, x_k), \dots, x_N(x_1, x_2, \dots, x_k)).$$

Theorem 2. If function  $F(\omega_1, \omega_2, \dots, \omega_N)$  depends significantly on all its arguments and takes on its true (or false) value with a unique set of these arguments, there are functions  $\psi_i(x_1, x_2, \dots, x_k, y_1, y_2, \dots, y_m)$   
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USSR

UDC 681.3

KJZ'MIN, I. V., BARABASH, I. P., Tekhn. Kibernetika, Vyp. 8, Kiev, 1970, pp 47-54.

$(1 \leq i \leq 2^k)$ , such that any logic algebra function  $f(x_k, y_m)$  can be represented by an expansion such as:

$$\begin{aligned} f(x_k, y_m) = & F\{\psi_i | x_1, x_2, \dots, \\ & \dots, x_k, f(0, 0, \dots, 0, y_1, y_2, \dots, y_m)\}, \psi_2 | x_1, x_2, \dots, \\ & \dots, x_k, f(1, 0, \dots, 0, y_1, y_2, \dots, y_m)\}, \psi_k | x_1, x_2, \dots, \\ & \dots, x_k, f(1, 1, \dots, 1, y_1, y_2, \dots, y_m)\}. \end{aligned}$$

and this expansion is unique.

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- 46 -

USSR

UDC 621.382.2:539.1.074

LITOVCHENKO, P. G., GONCHAR, V. G., BARABASH, I. I., DEMIDOVA,  
G. N., and KIBKALO, T. I.

"Some Special Semiconductor Detector Types for Studying Nuclear  
Reactions"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 4, 1970,  
pp 122-129

Abstract: Noting that recent articles have been devoted to nuclear reaction detectors made of silicon compensated with lithium and having a sensitivity region thickness of up to 6 mm, the authors describe their experiments using charged particles of higher energy which entered the silicon to a depth of several millimeters. The detectors used by the authors had a resolution of 50-60 kev for alpha particles of  $Am^{243}$  with an energy of 5.8 Kev. The best detector specimens with an area of about 2 cm<sup>2</sup> had a resolution of 30 kev. The plot of the  $Am^{243}$  alpha particle spectrum detected by a No. 52 specimen is shown. To prepare detectors of this and other types, the authors used the brand BMD-1000 of silicon, which is obtained from the noncrucible zone of the melt and contains less than  $2 \cdot 10^{16}$  oxygen atoms per cc, with the lifetime of  
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USSR

LITOVCHENKO, P. G., et al., Poluprovodnikovaya tekhnika i mikroelektronika,  
No 4, 1970, pp 122-129

minority carriers varying from 200-400  $\mu$ s and a dislocation concentration of less than  $5 \cdot 10^4 \text{ cm}^{-2}$ . A diagram of the cross-section construction of the planar detector as well as the diagrams of the ring and "hat" types is shown.

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- 146 -

USSR

UDC 621.382.2:539.1.074

BARABASH, L. I. and GONCHAR, V. G.

" $dE/dx$  Detectors of Silicon Compensated by Lithium"

Kiev, Poluprovodnikovaya tekhnika i mikroelektronika, No. 4, 1970, pp 69-77.

Abstract: A discussion of semiconductor detectors used in the study of nuclear reactions by the so-called  $dE/dx$  X E method is given. The authors describe experiments for making  $dE/dx$  detectors from silicon compensated by lithium. The first results they obtained from detectors made by this method are described in an earlier article they published (Radiatsionnaya fizika nemetallicheskih kristallov -- Radiation Physics of Nonmetallic Crystals -- published by "Naukovaya dumka," Kiev, 1967). The present paper gives further experimental results in the use of the detectors for the study of nuclear reactions. The experiments used detectors made of p-type silicon with a specific resistance of 1000 ohm.cm, a dislocation density of about  $10^4$  cm<sup>-2</sup>, a minority carrier lifetime of about 200  $\mu$ s, and an oxygen concentration of about  $5 \cdot 10^{16}$  cm<sup>-3</sup>. A diagram showing the construction of the  $dE/dx$  detector is given and its volt-ampere characteristics are plotted. The results show that such detectors can be successfully used for studying nuclear effects.

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USSR

UDC: 53.07/.08+53.001.5

BARABASH, L. Z., KRYZHANOVSKIY, O. I., LEBEDEV, P. I.

"A Device for Feeding the Deflecting Plates of a Ring Accelerator"

USSR Author's Certificate No 307542, Division H, filed 31 Mar 70, published 5 Aug 71 (from RZh-Fizika, No 4, Apr 72, Abstract No 4A516 P)

Translation: Rapid discharge of the deflecting voltage from the plates of an electrostatic inflector is extensively used for single-revolution injection in cyclic accelerators. An impulse thyatron is ordinarily used for discharging the inflector capacitance. In the initial part of the acceleration period, the deflection voltage across the inflector must be held close to the zero level. Ordinarily for this purpose the commutating thyatron is artificially maintained in the ignited conductive state through the entire acceleration period. This mode considerably cuts down the life of the thyatron and reduces the reliability of the injection system. This invention proposes a method of eliminating this disadvantage. An electronic switch is added to the primary circuit of the high-voltage rectifier of the inflector supply system to disconnect the rectifier supply immediately after voltage discharge across the inflector. Throughout the

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USSR

BARABASH, L. Z. et al., USSR Author's Certificate No 307542

entire process of rectifier disconnection, the ignited state of the commutating thyatron is maintained by a low-voltage RC circuit connected through a decoupling diode. L. N. Kazanskiy.

2/2

1/2 031 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--EXPERIMENTAL STUDY OF THE WIDTH OF THE NEAR ANODE LAYER IN A  
KNUDSEN SYSTEM FOR A THERMIONIC ENERGY CONVERTER -U-  
AUTHOR--(05)--BABANIN, V.I., BARABASH, M.B., GAIDO, G.K., DUNAYEV, YU.A.,  
KRAVINSKIY, YU.G.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. TEKH. FIZ. 1970, 40(4), 833-8  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--ELECTRODE PROPERTY, THERMIONIC ENERGY CONVERSION, VOLT AMPERE  
CHARACTERISTIC, BARIUM, CESIUM, TRANSVERSE MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/1196

STEP NO--UR/0057/70/040/004/0833/0838

CIRC ACCESSION NO--AP0124850

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124850

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WIDTH OF THE NEAR ANODE LAYER IN A THERMIONIC ENERGY CONVERTER FILLED WITH BA,CS IN A TRANSVERSE MAGNETIC FIELD WAS INVESTIGATED EXPTL. VOLT AMPERE (V,A) CHARACTERISTICS ARE SHOWN FOR CATHODE, BA, AND CS TEMPS. OF 1893, 936, AND 373DEGREESK, RESP. A SMALL CURRENT INCREASE IN THE SATN. REGION IS EXPLAINED BY WIDENING OF THE NEAR ANODE LAYER. THE VALUES OF THIS WIDTH CALCD. BY V. I. KUZNETSOV, ET AL. (1970) WERE CONFIRMED EXPTL. BY ANAL. OF THE V,A CHARACTERISTICS. THE COMPENSATION DEGREE MAY BE DETD. IF THE WIDENING OF THE NEAR ANODE LAYER IS TAKEN INTO ACCOUNT.

UNCLASSIFIED

1/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

TITLE--EXPERIMENTAL STUDY OF THE EFFECT OF A TRANSVERSE MAGNETIC FIELD ON  
THE VOLT AMPERE CHARACTERISTICS OF THE THERMIONIC CONVERTER IN A KNUDSEN  
AUTHOR--(05)-BABANIN, V.I., BARABASH, M.B., GAYDO, G.K., DUNAYEV, YU.A.,  
KRAVINSKIY, YU.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 561-6.

DATE PUBLISHED-----70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), PHYSICS

TOPIC TAGS--VOLT AMPERE CHARACTERISTIC, CATHODE, ANODE, BARIUM, CESIUM,  
MAGNETIC FIELD EFFECT, THERMIONIC ENERGY CONVERSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/2259

STEP NO--UR/0057/70/040/003/0561/0566

CIRC ACCESSION NO--AP0125837

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125837

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OVER A WIDE RANGE OF CATHODE TEMPS. AND OF BA AND BA PLUS CS PRESSURES, THE INCREASE IN THE FIELD STRENGTH RESULTS IN A DECREASE IN THE SATN. CURRENT FOR THE CONVERTER. THIS IS IN GOOD QUAL. AGREEMENT WITH THE THEORETICAL CONCLUSIONS. IN A TRANSVERSE MAGNETIC FIELD THE CURRENT DOES NOT ACHIEVE SATN. WITH AN INCREASE IN THE POS. POTENTIAL ON THE ANODE BUT CONTINUES TO INCREASE, THE EFFECT BEING MORE PRONOUNCED FOR LOW CURRENT VALUES. THE INCREASE IN THE CURRENT MAY BE DUE TO A NO. OF REASONS, ONE OF WHICH IS THE WIDENING OF THE PREANODE ZONE.

UNCLASSIFIED



USSR

UDC 542.91+661.718.1

BARABASH, N. D., DZHUNDUBAYEV, K. D., PORTNOVA, G. V., and KOZHAKHMETOVA, R. I., Institute of Organic Chemistry, Academy of Sciences Kirgiz SSR

"Synthesis of New Ammonium Salts of Derivatives of Phosphonic Acids"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSR, No 2, Mar-Apr 72, pp 61-62

Abstract: On reacting the aminophosphonate  $(\text{EtO})_2\text{P}(\text{=O})\text{-CH-NEt}_2$  (I) with alkyl halides RX in a sealed tube for 3-5 hrs at  $110\text{-}150^\circ$ , 0,0-diethylphosphonoethyl (N,N,N-diethylalkyl)ammonium halides  $[(\text{EtO})_2\text{P}(\text{=O})\text{-CH-NEt}_2]^+ \text{X}^-$  (II) with R=Et, X=Br ( $d^{20}_{\text{D}} 1.1700$ ,  $n^{20}_{\text{D}} 1.4660$ ); R=Pr, X=Br ( $d^{20}_{\text{D}} 1.1654$ ,  $n^{20}_{\text{D}} 1.4800$ ); R=Pr, X=I ( $d^{20}_{\text{D}} 1.2460$ ,  $n^{20}_{\text{D}} 1.4804$ ); and R=Am, X=Br ( $d^{20}_{\text{D}} 1.0986$ ,  $n^{20}_{\text{D}} 1.4565$ ) were obtained in the form of thick oils that crystallized on standing. I was prepared by the methods described by E. K. Fields (Fields?/, J. Am. Chem. Soc., 74, 1528, 1952, and G. M. Kozolapoff, J. Am. Chem. Soc., 70, 1971, 1948. The newly synthesized compounds II are of interest because many phosphonylammonium halides exhibit physiological activity to a greater

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BARABASH, N. D., et al., Izvestiya Akademii Nauk Kirgizskoy SSR, No 2, Mar-Apr 72, pp 61-62

or lesser extent (cf. N. N. Mel'nikov, "Khimiya Pretitsidov" - Chemistry of Pesticides -, Khimiya, Moscow, 1968, and USSR Author's Cert. 179315, Byull. Izobret. , No 5, 1966). The work described is a continuation of research in an earlier stage of which (Barabash et al., Izv. AN Kirgiz. SSR, No 1, 1972) some phosphorylammonium halide analogs were synthesized.

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- 50 -

USSR

UDC 542.91+661.718.1

BARABASH, N. D., DZHUNDUBAYEV, K. D., KOZHAKHMETOVA, R. I., and PORTNOVA, G. V.,  
Institute of Organic Chemistry, Academy of Sciences Kirgiz SSR

"Synthesis of O,O-Diethylethylphosphonyl/N,N,N-diethylaryl(alkyl)/ammonium  
Halides"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSR, No 1, Jan-Feb 72, p 60

Abstract: O,O-Diethylethylphosphonyl/N,N,N-diethylaryl(alkyl)/ammonium halides  
(II) were prepared by the reaction  $(RO)_2P(-O)CHNR_2$  (I) +  $R''X \rightarrow (RO)_2P(-O)CHNR_2R''X$

$P(-O)CHNR_2$  /X (II), where R = Et, R' = Me, R'' is CH<sub>2</sub> Ph or Bu, and X = Cl,  
R' R''

Br, I. Compounds I were synthesized by known methods. Substances II may be of  
value as antihelmintics, because salts of quaternary ammonium bases exhibit a  
wide range of activity of this type. Introduction of a phosphoric acid ester  
residue will presumably increase the physiological activity of compounds of  
this class.

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- 68 -

AP0000252

UR 0396

PRIMARY SOURCE: Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, 1969, Vol 13, Nr 5, pp 51-60

THE INFLUENCE OF INCISOR AMPUTATIONS UPON THE ADRENAL GLANDS OF NORMAL, HYPOPHYSECTOMIZED AND SIALADENECTOMIZED RATS

R. D. Barabash

Rats of Wistar strain were subjected to repeated incisor amputations, which brought about submaxillary hypertrophy and increase of their endocrine function. These experiments demonstrated that disturbances of the salivary gland function led to a distinct derangement of adrenal response to stress conditions. It was shown in experiments with hypophysectomized rats that, besides the main, mediated through the hypophysis, effect, there exists a direct influence of the salivary glands upon the adrenal cortex. It was also revealed that the normal hypophysis and salivary gland activity is required for acceleration of the incisor growth after repeated amputations; however, salivary glands retain their capacity to intensify the teeth growth and regeneration after hypophysectomy.

19500294

USSR

UDC 616.89-02:615.285.7.099

BARABASH, V. I.

"Neurologic and Mental Disorders in Chlorophos Poisoning"

Moscow, Zhurnal Nevropatologii i Psikhatrii imeni S. S. Korsakov, No 4,  
1971, pp 594-598

Abstract: Study of 82 patients who ingested from 50 to 200 g of the organo-phosphorus insecticide chlorophos accidentally or with suicidal intent showed that the acute period of intoxication was marked by general weakness, headaches, nausea, gastric pains, absence of the pupillary reflex to light along with pronounced inhibition, indifference to surroundings, hallucinations, motor restlessness, and, in severe, cases, maniacal tendencies, delirium, and epileptiform seizures. After about a week the psychotic disorders gave way to pronounced asthenia with a weakening of memory and intellectual capacity. Autonomic-vascular disturbances (acrocyanosis, instability of arterial pressure, spells of tachycardia) appeared in a number of patients along with polyneuritis of varying degrees of severity. The considerable diversity of symptoms and mode of manifestation reflected wide differences in the personality traits of the patients.

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1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--A METHOD OF DETERMINING THE TRUE HEIGHT OF REFLECTION IN THE CASE  
OF OBLIQUE INCIDENCE -U-  
AUTHOR--BARABASHOV, B.G. *B*  
COUNTRY OF INFO--USSR  
SOURCE--GEOMAGNETIZM I AERONOMIIA, VOL. 10, NO. 2, 1970, P. 348-350  
DATE PUBLISHED-----70  
SUBJECT AREAS--ATMOSPHERIC SCIENCES, EARTH SCIENCES AND OCEANOGRAPHY  
TOPIC TAGS--VERTICAL SOUNDING, REFLECTED SIGNAL, ERROR, ATMOSPHERIC  
SOUNDING  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/0160 STEP NO--UR/0203/70/010/002/0348/0350  
CIRC ACCESSION NO--AP0119156

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIKC ACCESSION NO--AP0119156

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT OF AN IMPROVED METHOD OF DETERMINING THE TRUE HEIGHT OF REFLECTION REQUIRED IN THE INTERPRETATION OF OBLIQUE SOUNDING DATA. THE METHOD IS APPLICABLE IN THE CASE WHERE ONE SKIP AND MULTISKIP PROPAGATION OCCUR SIMULTANEOUSLY OVER THE PATH INVESTIGATED. IN THE METHOD PROPOSED, THE TRUE HEIGHT OF REFLECTION IS DETERMINED FROM THE SIMULTANEOUS SOLUTION OF TWO EQUATIONS. IT IS SHOWN THAT THE ERROR OF THE METHOD DOES NOT EXCEED THE INSTRUMENT ERROR INVOLVED IN THE MEASUREMENT OF THE TRUE HEIGHT OF REFLECTION THE CASE OF VERTICAL SOUNDING. FACILITY:  
ROSTOVSKII-NA DONU GOSUDARSTVANNYI UNIVERSITET, ROSTOV, USSR.

1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--METHODS OF DETERMINING THE SMOOTHNESS FACTOR OF PLANETARY SURFACES  
-U-  
AUTHOR--EAKABASHOV, N.P. *B.*  
COUNTRY OF INFO--USSR *Released*  
SOURCE--ASTRONOMICHESKII VESTNIK, VOL. 4, APR.--JUNE 1970, P. 96-101  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS  
TOPIC TAGS--PLANETARY SURFACE, MARS PLANET, LEAST SQUARE METHOD, TELESCOPE  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605013/C10 STEP NO--UR/0454/70/004/000/0096/0101  
CIRC ACCESSION NO--APC140382  
UNCLASSIFIED



2/2 022

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0140382

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CRITICAL EVALUATION OF THREE EXISTING METHODS OF DETERMINING THE SMOOTHNESS FACTOR OF THE SURFACES OF COSMIC BODIES. ONE METHOD IS BASED ON SOLVING (BY THE METHOD OF LEAST SQUARES) A SYSTEM OF EQUATIONS IN LOGARITHMIC FORM WHICH DESCRIBES THE BRIGHTNESS DISTRIBUTION ACROSS THE PLANETARY DISK AS A FUNCTION OF THE ANGLE OF INCIDENCE. THE SECOND METHOD MAKES USE OF A FORMULA DESCRIBING THE MAGNITUDE OF MARS IN RED LIGHT DURING OPPOSITION, WHILE THE THIRD METHOD IS BASED ON COMPARING THE OBSERVED PHASE CURVE OF A PLANET WITH TWO THEORETICAL OR EXPERIMENTAL PHASE CURVES FOR TWO SPHERES WITH GIVEN SMOOTHNESS FACTORS, ONE OF WHICH IS ROUGHER AND THE OTHER SMOOTHER THAN THE EXPECTED FACTOR. THE ADVANTAGES AND DRAWBACKS OF EACH METHOD ARE EXAMINED, SHOWING THAT NONE OF THEM APPROACHES THE RELIABILITY OF VISUAL OBSERVATIONS WITH POWERFUL TELESCOPES AND IMAGE QUALITY CONTROL. FACILITY: KHARKOVSKII GOSUDARSTVENNYI UNIVERSITET, KHARKOV, UKRAINIAN SSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--GENESIS OF ABSORPTION SPECTRA OF BENZENE DERIVATIVES CONTAINING  
N,TWO,DONOR AND N,TWO,ACCEPTOR CONTRA SYSTEMS -U-  
AUTHOR-(03)-BARABASHOVA, G.D., IZMAYLSKIY, V.A., MILLIARES, YE.YE.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSR 1970, 190(1), 95-8 (CHEM)  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ABSORPTION SPECTRUM, AMINE, BENZOIC ACID, ESTER,  
ISONER, ANILINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1984/1581 STEP NO--UR/0020/70/190/001/0095/0098  
CIRC ACCESSION NO--AT0100199  
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AT0100199

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION SPECTRA WERE REPORTED FOR 16 ESTERS OF AMINOBENZOIC ACID ISOMERS AND ANALOGS WITH NH SUB2, PHNH, ETNH AND ET SUB2 NH AND CO SUB2 ET GROUPS IN VARIOUS POSITIONS ABOUT THE RING. THESE WERE COMPARED TO SPECTRA OF BZOET AND PHNH SUB2. THE SPECTRA WERE SHOWN GRAPHICALLY AND THEIR NUMERICAL DATA WERE TABULATED. THE SPECTRAL BANDS OF ET OMICRON-AMINOBENZOATE WERE GENETIC TO ALL THE OTHER SPECTRA IN THE GROUP AND THE PRINCIPLE OF GENESIS OF SPECTRAL BANDS FROM THOSE OF SIMPLE STRUCTURAL UNITS WAS DEMONSTRATED IN EACH INSTANCE.

UNCLASSIFIED

USSR

UDC 621.357.13:669.28

BARABOSHKIN, A. N., SALTYKOVA, N. A., TALANOVA, M. I., and MARTEM'YANOVA, Z. S.

"The Structure of Continuous Deposits of Molybdenum Obtained from the Electrolysis of the Melt  $KCl-K_2MoCl_6$ "

Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences USSR), Vyp 18, 1972, pp 87-93 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L344 by B. B. Grinina)

Abstract: A study was made of the influence of the electrolysis parameters on the structure of the continuous deposition of Mo prepared from a melt containing  $KCl$  and  $K_2MoCl_6$ . The electrolysis was carried out under an atmosphere of argon. The precipitate was studied metallagraphically and by x-ray analysis. The thickness was determined from the increase in weight. The radial texture by the ARKHAROV method. The feasibility was demonstrated for preparing deposits of high purity Mo having a thickness of a new mm from strictly chloride melts. For this, it is necessary to use high purity salts as a starting material and high purity inert gas to separate the anolyte from the catholyte. A number of materials, such as graphite, W, Pt, Sr, Pd, Au, Ha, Fe, Ni, and Ag, may be used for the cathode and strongly cohesive

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BARABOSHKIN, A. N., et al., Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSR, Vyp 18, 1972, pp 87-93

precipitates may be obtained from chloride oxide melts. The texture of the growth is type 3. It is produced by relatively high rates of growth of the grain having orientation of III perpendicular to the substrate such that it is actually related to it by a twin structure.

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USSR

UDC 621.357.13:669.26

TARASOVA, K. P., BARABOSHKIN, A. N., and NAZROV, V. A.

"Obtaining Chrome Films by Electrolysis of Chloride Melts. III. The Influence of the Cathode Composition and Temperature on the Structure of the Deposits"

Tr. In-ta elektrokhimii, Ural'sk. nauch. tsentr AM SSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences USSR), Vyp 18, 1972, pp 94-98 (from Referativnyi Zhurnal --- Khimiya, No 8(II), 1973, Abstract No 8L345 by V. V. Grinina)

Translation: A study was made of the change in the structure of chrome films during the change in temperature and the cathode composition of the melt solvent. The melts studied were composed of alkali chlorides at a temperature of 800°, containing 2 mole % CrCl<sub>2</sub> at a D<sub>k</sub> of 0.05 amps/cm<sup>2</sup>. Compact

films were obtained having a columnar structure and the coarseness of the crystals decreased in the order LiCl-NaCl-KCl-CsCl. During the precipitation of Cr from the melt 3LiCl-2KCl-CrCl<sub>2</sub>, the coarseness of the grain increased with an increase in the temperature from 400 to 800°. At the lower temperatures the adhesion of the film to the base was reduced and it was evident that there was no alloy formation between the Cr and metals of the base.

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Electrochemistry

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UDC 621.357.13.035.2:661.879.1.22

PUZAKOV, V. V., BARABOSHKIN, A. M., and KALIYEV, K. A., and TARASOVA, K. P.

"Mechanism for the Growth Hemispherical Precipitates of Uranium Dioxide on the End of the Electrode"

Tr. In-ta elektrokhimii, Ural'sk. nauch. tsentr AN SSSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences, USSR), Vyp 18, 1972, pp 99-105 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L346 V. V. Grinina)

Translation: The hypothesis mentioned earlier that hemispherical shape of precipitates of  $UO_2$  formed on the ends of Pt microcathode in  $LiCl-KCl-UO_2-Cl_2$  melt at  $400^\circ$  was caused by a particular relationship of the specific electrical resistance of the cathode, the precipitate, and the melt. The specific and effective electrical resistances of the melt and the electrolytic  $UO_2$  were compared as were the calculated and experimental forms of the precipitate on the end of the cathode. Measurements by electrical conductivity were carried out in an atmosphere of argon by the contact method, using a bridge to carry a current having a frequency of 5000 Hz from room temperature to  $600^\circ$ . The electrical conductivity of  $UO_2$  was measured directly in the melt,  $1/2$

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PUZAKOV, V. V., et al., Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSSR, Vyp 18, 1972, pp 99-105

during the growth of the precipitate. A timed potentiometric method was used in the calculation of the electrical conductivity of the alloy to determine the diffusion coefficients of the uranyl ion in the pectic mixture LiCl-KCl. It was shown that the specific electrical conductivity of  $UO_2$  was half an order of magnitude smaller than the effective electrical conductivity and two orders of magnitude smaller than the specific electrical conductivity of the melt. The theoretically calculated value of the form of the precipitate was close to that observed experimentally. The precipitate had a hemispherical form.

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USSR

UDC 621.357.7:669.268

TARASOVA, K. P., BARABOSHKIN, A. N., MARTEM'YANOVA, Z. S.

"Influence of Complex Formation on the Structure of Chromium Sediments"

Tr. In-ta Elektrokhimii. Ural'sk. Nauch. Tsentr. AN SSSR [Works of the Institute of Electrochemistry, Ural's Scientific Center, Acad. Sci. USSR], No 17, 1971, pp 118-123 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 L312 by V. V. Grinina).

Translation: The influence of the F ion on the structure of Cr sediments produced by electrolysis of chloride-fluoride and fluoride melts was studied. Increasing the F/Cr ratio to 10 caused a decrease in grain size in the sediment. Further increases in fluoride concentration in the electrolyte had no significant influence on crystal size. Compact sediments, well bonded to bases of Cu, Ni, Mo, Nb, alloys VN-2 and VN-3 were produced at temperatures of 700-900° and  $D = 0.01-0.1 \text{ a/cm}^2$  in melts containing 5-20 wt.% K hexafluorochromate ( $\text{K}_3\text{CrF}_6$ ). As the content of the F ion in the melt increased, the grain of the sediment was primarily oriented with the  $\langle 100 \rangle$  direction perpendicular to the plane of the substrate. The quality of the texture increased as sediment thickness increased.

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1/2 017 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--PASSIVATION OF CATHODIC PRECIPITATES OF URANIUM DIOXIDE IN CHLORIDE  
MELTS -U-  
AUTHOR-(03)-BARABOSHKIN, A.N., KALIYEV, K.A., TARASOVA, K.P.  
COUNTRY OF INFO--USSR  
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METAL PASSIVATION, OXIDE FILM, URANIUM OXIDE  
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UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104212

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE PASSIVATION IS CAUSED BY EXCESS O IN THE UO SUB2 PPT. DURING ANODIC DISSOLN. OF THE DIOXIDE, IONS OF UO SUB2 PRIME POSITIVE POSITIVE GO INTO THE MELT AND THE SURFACE OF THE ANODE BECOMES ENRICHED IN O FORMING U OXIDES ALL THE WAY UP TO U SUB3 O SUB8. THE PASSIVATION PROCESS PROCEEDS WHETHER THE CURRENT IS APPLIED OR NOT, THE ULTIMATE RESULT BEING URANOUS URANIC OXIDE REMAINING ON THE SURFACE OF THE ANODE. IT IS JUSTIFIABLE TO CONCLUDE THAT PASSIVATION RESULTS FROM THE SHIELDING OF UO SUB2 BY U SUB3 O SUB2.

UNCLASSIFIED

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BARABOY, V. A., and KIRICHINSKIY, B. R., Yadernyye Izlucheniya i Zhizn',  
Moscow, Nauka Press, 1972, 232 pp

	Page
Chapter 4. Permissible Doses and Protection from Nuclear Radiation	115
Chapter 5. Medicine Against the Radiation Threat	141
Chapter 6. Nuclear Radiation in the Service of Man	167
Chapter 7. Radiation in Outer Space	208

USSR

CHEBOTAR'OV, E. Yu., Doctor of Medical Sciences, GRODZINS'KIY, D. M., Doctor of Biological Sciences, BARABOY, V. A., Candidate of Medical Sciences, and KIRICHINS'KIY, B. R., Candidate of Legal Sciences

"Radiobiology in the Ukraine"

Kiev, Vestnik Akademii Nauk Ukrainskoy SSR, No 9, Sep 70, pp 48-52

Abstract: A survey is presented of the leading Ukrainian research institutes and the achievements of the major Ukrainian scientists. Ukrainian radiobiologists are conducting a wide variety of investigations on a high scientific and methodological level. Fundamental contributions are being made to such important problems as the biological effects of fast neutrons; mechanisms of radioprotection of animals and plants; repair of lesions caused by radiation; migration, incorporation, and effects of natural and artificial radioactive isotopes; and primary mechanisms of the injurious effects of ionizing radiation on biopolymers, mainly proteins. Extensive use is being made of radiospectroscopy, X-ray diffraction analysis, gas chromatography, and physicochemical studies of model systems.

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USSR

UDC 576-895.4

MULYARSKAYA, L. V., KOROBEYNIKOVA, A. S., and BARAGAMOVA, E. S.,

"Small Mammals as Hosts of Trombiculid (Acariformes, Trombiculidae) in the Lesser Caucasus"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Biologicheskikh Nauk, No 1, 1971, pp 95-101

**Abstract:** During 1963-66 the Institute of Zoology, Academy of Sciences Azerbaydzhan SSR, and the Azerbaydzhan Anti plague Station carried out a study of the species composition of small mammals harboring Trombiculid mites in the Lesser Caucasus, the species composition of the mites infesting small mammals there, the degree of infestation of the mammals of different species with the mites, and seasonal variations in the degree of infestation. The results are summarized in the form of tables. Trombiculid mites are of importance as vectors of rickettsioses. The principal hosts of the mites were rodents of several species (gerbils, voles, and the house mouse). The considerable degree of infestation of the house mouse with Trombiculid mites is of interest, because house mice were found to be infested to only a slight degree or not at all in other regions of the Caucasus.

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USSR

UDC 614.445(497.24):576.851

BARAGAMOVA, E. YE., ZAKUTINSKAYA, N. A., MAMEDZADE, A. U., Candidate of  
~~Medical Sciences~~, MAMEDOVA, S. A., and MEDVEDEVA, E. P., Azerbaydzhan Anti-  
plague Station

"The Vibrio Content in Rivers and Some Open Water Basins Bordering on  
Azerbaydzhan," (Report One)

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, No 5, May71, pp 50-53

Abstract: A study was made of the vibrioflora (particularly cholera vibrios) of the Araks river, Apsheronkiy canal, and Caspian sea, all waters bordering on Iran and long known as an epidemiological focus of cholera, from which the disease frequently spread to Russia. During the years 1967-1968 samples gathered from the waters of the Araks river, Apsheronkiy canal, and Caspian Sea contained 96, 197, and 146 different types of vibrios comprising six groups (Heiberg's classification). Most types were obtained in the months between May and October. Most numerous and epidemiologically interesting were the vibrios in group one, which included also the El Tro Ogawa sero-type. Of the vibrios in this group, 18-18.7% of the total number of vibrios gathered from the waters of Raks river and the canal and 8.9% of those gathered from the Caspian Sea were agglutinated by cholera O serum in different

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USSR

BABAGAMOVA, E. YE., et al., Azerbaydzhanskiy Meditsinskiy Zhurnal, No 5, May 71, pp 50-53

dilutions. On the basis of Heiberg's classification the vibrios gathered from Araks river were grouped as follows: group I contained 29.2%, group II -- 23.6%, group III -- 2.2%, group IV -- 14.6%, group V -- 1.2%, and group VI -- 29.2%; from Apsheronkiy canal: group I -- 52.3%, group II -- 33%, group III -- 1.5%, group IV -- 0.5%, group V -- 1.5%, and VI -- 11.2%; from Caspian Sea: group I -- 51.4%, group II -- 12.3%, group III -- 4.7%, group V -- 13%; group VI -- 18.6%. No group IV vibrios were found in the Caspian Sea. The medical and sanitary workers of Azerbaydzhan SSR have been warned that the presence of El Tor and other vibrios which are agglutinated by cholera O serum presents a constant threat of a cholera epidemic outbreak, and that at all times the necessary prophylactic measures should be enforced.

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- 50 -



USSR

UDC 621.43

BUSHANSKAYA, L. I., Candidate of Technical Sciences, and  
BARAKAN, G. H., Engineer

"Results of the Experimental Investigation of the Characteristics of Free-Moving Piston Gas Generators Under Transitional Operating Conditions"

(Article presented by Doctor of Technical Sciences A. S. Orlin, Professor at the Moscow Higher Technical School imeni N. E. Bauman)

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy. Mashinostroyeniye, No 3, 1972, pp 91—96

Abstract: Results of an experimental investigation of the performance of a free-moving piston gas generator (FMPGG) in transitional processes are analyzed with a view to value its dynamic properties. The process in the bounce cylinder and the main characteristics of the transitional process by throwing on and throwing down the load within the power interval controlled by means of changing the fuel supply are discussed by reference to diagrams.

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USSR

BUSHANSKAYA, L. I., Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 3, 1972, pp 91-96

The effects of quick-acting of the stabilizer and the capacity of the exhaust system on the generator response are rated. The formula for determining the capacity of the bounce hollow by different piston positions of the FMPPG model has been specified. The following were found to represent efficient means to improve the characteristics of the FMPPG transitional process: the most possible capacity decrease of gas communications; the use of control facilities of the turbine input-output characteristic during load shifting; the use of an additional filling control of the bounce cylinder in transitional processes. Three illustr., two biblio. refs.

2/2

USSR

UDC 669.15'28.26.25.24:621.78

SHAKHNAZAROV, YU. V., ANISIMOVA, M. S., BARAKHTIN, B. K., and SHUL'MAN, V. M.,  
Leningrad

"The Stabilization of Austenite with Inverse Conversion in Cr-Co-Mo and Cr-Ni-Co-Mo Steels"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 2, Mar-Apr 73, pp 160-163

Abstract: The stabilization of austenite was investigated with inverse conversion in Kh15K19M3 steel not containing Ni, and in Ni-containing Kh14K14N4M3 steel, both smelted in one-ton vacuum arc furnaces. The effect of the aging temperature on characteristic factors as the quantity of residual austenite, electric resistance, period of  $\alpha$ -phase lattice, impact ductility, and hardness, is discussed by reference to diagrams. The lowered stability of austenite, developing on initial stages of  $\alpha \rightarrow \beta$  conversion according to the shifting mechanism, indicate a low contribution of phasal peening to the stabilization effect. The maximum stability results with the development of  $\beta \rightarrow \alpha$  conversion, which becomes possible by a significant redistribution of elements. Considering the increased solubility of Mo in martensite at decreasing Co content, it can be assumed that the stabilization of austenite in steel not containing Ni is in presence of Cr, determined by  $\beta$ -phase concentration with Co. Three figures, eight bibliographic references.

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USSR

BARAKOV, Yu. P.

"Problems of Providing Queuing Information"

Moscow, Nauchno-Tekhnicheskaya Informatsiya: Seriya 1 - Organizatsiya i Metodika Informatsionnoy Raboty; July, 1972; pp 3-12

ABSTRACT: Using the example of the Vladivostok Seaport Information Service, the author made a study of the general problems of optimal mass information of a queuing nature. Based on the objective factors shaping the informational requirements, a consumer differentiation was obtained. The factors considered in the differentiation are, in part, the type, character, and content of the consumer's activities.

By means of diagrams of the informational status of scientific and technical development the nature and essence of the informational requirements are presented and classified. A description is given of the characteristics of constant informational requirements which are satisfied by the provision of current information.

1/2